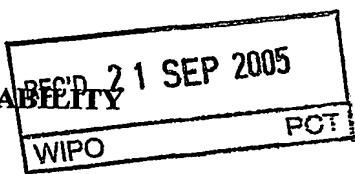


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)



(PCT Article 36 and Rule 70)

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|---|---|---|
| Applicant's or agent's file reference Case 890WO | FOR FURTHER ACTION See Form PCT/IPEA/416 | |
| International application No. PCT/SE2004/001106 | International filing date (day/month/year) 06-07-2004 | Priority date (day/month/year) 10-07-2003 |
| International Patent Classification (IPC) or national classification and IPC H04N 7/24, H04L 29/06, H04Q 7/38 | | |
| Applicant TELIA AB (publ) et al | | |

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|--|---------------------|---|------------------|---------------------|--------------------------|-------------------|----------|--------------------------|--------------------|--|--------------------------|-------------------|----------------------------|-------------------------------------|------------------|---|--------------------------|-------------------|-------------------------|--------------------------|--------------------|--|--------------------------|---------------------|---|
| <p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>4</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>4. This report contains indications relating to the following items:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><input checked="" type="checkbox"/></td> <td style="width: 15%;">Box No. I</td> <td style="width: 70%;">Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> | | <input checked="" type="checkbox"/> | Box No. I | Basis of the report | <input type="checkbox"/> | Box No. II | Priority | <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | <input type="checkbox"/> | Box No. IV | Lack of unity of invention | <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | <input type="checkbox"/> | Box No. VI | Certain documents cited | <input type="checkbox"/> | Box No. VII | Certain defects in the international application | <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. II | Priority | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VI | Certain documents cited | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application | | | | | | | | | | | | | | | | | | | | | | | |

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| Date of submission of the demand 06-05-2005 | Date of completion of this report 05-09-2005 |
| Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88 | Authorized officer Henrik Andersson /LR Telephone No. +46 8 782 25 00 |

AVAILABILITY

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2004/001106

Box No. I Basis of the report

1. With regard to the language, this report is based on:

the international application in the language in which it was filed
 a translation of the international application into _____ which is the language of a translation furnished for the purposes of:
 international search (Rules 12.3(a) and 23.1(b))
 publication of the international application (Rule 12.4(a))
 international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

the international application as originally filed/furnished
 the description:
 pages 1-7 _____ as originally filed/furnished
 pages* _____ received by this Authority on _____
 pages* _____ received by this Authority on _____
 the claims:
 pages _____ as originally filed/furnished
 pages* _____ as amended (together with any statement) under Article 19
 pages* 8-11 _____ received by this Authority on 18-08-2005
 pages* _____ received by this Authority on _____
 the drawings:
 pages 1-5 _____ as originally filed/furnished
 pages* _____ received by this Authority on _____
 pages* _____ received by this Authority on _____
 a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

the description, pages _____
 the claims, Nos. _____
 the drawings, sheets/figs _____
 the sequence listing (specify): _____
 any table(s) related to the sequence listing (specify): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages _____
 the claims, Nos. _____
 the drawings, sheets/figs _____
 the sequence listing (specify): _____
 any table(s) related to the sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2004/001106

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

| | | | |
|-------------------------------|--------|-------------|-----|
| Novelty (N) | Claims | <u>1-11</u> | YES |
| | Claims | _____ | NO |
| Inventive step (IS) | Claims | <u>1-11</u> | YES |
| | Claims | _____ | NO |
| Industrial applicability (IA) | Claims | <u>1-11</u> | YES |
| | Claims | _____ | NO |

2. Citations and explanations (Rule 70.7)

Documents cited in the international search report:

D1: WO 02 052860 A1
 D2: WO 02 11398 A1
 D3: WO 02 063849 A1

The claimed invention relates to a method and system to transmit streamed prioritized information via a separate MMS medium, whereas the subsequent differential data are transmitted over a standard channel.

The problem to be solved by the claimed invention concerns the propagation of errors in low prioritized data in case high prioritized data happens to include errors. Thus, as high- and low- prioritized data are transmitted via a common wireless channel; the whole data could be corrupted due to error propagation described above, which could require retransmission or total loss of the original streamed information.

Document D1 relates to a method, system and a terminal for transmitting streamed data via a wireless channel. The streamed data is divided into high prioritized and low prioritized data. High prioritized data are send via a separate medium, whereas low prioritized are transmitted over a standard channel. High- and low prioritized data are thereafter combined in the receiver for the reconstruction of the streamed information to be viewed (see abstract; page 1, line 1-7, page 23; line 10-29; claims 1, 19 and figure 1).

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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| International application No. PCT/SE2004/001106 |
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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

Moreover, in D1, the invention has been developed primarily to allow video to be streamed in a UMTS or GPRS mobile communications network (see page 1, lines 1-7 in D1). The invention is also applicable to all standards used in UMTS or GPRS, such as combining streaming and MMS, which is a well known standard in the field of wireless multimedia services.

Consequently, the documents cited in the International Search Report represent the prior art. The claimed invention stated in claims 1-11 is not considered to be anticipated by these documents. None of the documents or any relevant combination of them reveals a procedure to transmit streamed information as described in these claims.

According to the arguments stated above, the invention claimed in claims 1-11 is novel, considered to involve an inventive step and have industrial applicability.

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CLAIMS

1. Procedure to transmit streamed information at a wireless tele- and data communication network to a terminal with
5 video client, where streamed information is divided into high prioritized data, I-frames, and low prioritized data, P-frames, said high prioritized data are transmitted via a separate medium, whereas low prioritized data are transmitted over a standard channel, in order to after that show
10 high and low prioritized data in correct sequence continually in the terminal, characterized in a system (100) which includes: a terminal (106), a network (102), at which the network includes: a streaming server (108), an MMS-server (110), in that the network there is selected
15 information from where streaming data are derived, at which the terminal includes an MMS-client (202), a streaming client (204), and a streaming buffer (206) to buffer streaming data, and a presentation/display unit (208) to show information, that the procedure consists of buffering
20 a first time interval of streaming data, to show/display the first information on the display unit (208), and at the same time as the first information is shown on the display unit (208), new streaming data are transmitted/transferred, and in that high prioritized data are transmitted via MMS
25 and low prioritized data are transmitted via streaming.

2. Procedure as claimed in patent claim 1, characterized in that MMS is used as an initial notification for the medium.

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3. Procedure as claimed in claim 1 or 2, characterized in that just any amount of high prioritized data can be transmitted in an MMS.

[AMENDED SHEET

4. Procedure as claimed in any of the patent claims 1-3, characterized in that all high prioritized data are transmitted via MMS at short video sequence.
5. 5. Procedure as claimed in any of the patent claims 1-3, characterized in that asymmetrical high prioritized data are transmitted via MMS at long video sequences.
6. Procedure as claimed in patent claim 5, characterized
10 in that before a streaming service is initialized, an MMS is initially transmitted to the terminal which has requested/asked for the service; the MMS includes on the one hand buffer data, and on the other information about the data flow as such, that the streaming client can start
15 streaming of buffer data without delay.
7. Procedure as claimed in patent claim 5, characterized in that the procedure includes:
 - a first step (302) that the terminal (106) receives an
20 MMS- notification to the streaming session,
 - a second step (304) to activate transmission of buffer data from the streaming server (110) to the streaming client (204),
 - a third step (306); the streaming client (204)
25 places/puts the enclosed information in its streaming buffer (206),
 - a fourth step (308); the terminal initiates a session with the streaming server (108) which starts streaming back the rest of the information,
 - a fifth step (310); the streaming server (108)
30 transmits information to the streaming client (204),
 - a sixth step (312); the streaming client places/puts the information in the streaming buffer (206).

8. Computer program including program steps for execution of the steps in a procedure according to any of the patent claims 1-7.

5 9. Computer with readable medium including instructions for execution of the steps in procedure according to any of the patent claims 1-7.

10. System (100) for controlling buffering of streaming data in a wireless tele- and data communication network, upon transmission of streamed information at said wireless tele- and data communication network to a terminal with video client, where streamed information is divided into high prioritized data, I-frames, and low prioritized data, 15 P-frames, said high prioritized data are transmitted via a separate medium, whereas low prioritized data are transmitted over a standard channel, in order to after that show high and low prioritized data in correct sequence continually in the terminal, characterized in that said 20 system includes a terminal (106), and a network (102), which network includes a streaming server (108), and an MMS-server (110), in that the network is that part from which streaming data are derived, in that the terminal (106) includes an MMS client (202), a streaming client 25 (204), a streaming buffer (206) for buffering a first time interval of streaming data, and a presentation/display unit (208), and in that said system is arranged to transmit high prioritized data via MMS and low prioritized data via streaming.

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11. Terminal (106) in a system (100) for controlling buffering of streaming data in a wireless tele- and data communication network, which system (100) comprises the special features defined in claim 10, characterized in

that said terminal (106) includes an MMS client (202), a streaming client (204), a streaming buffer (206), at which the terminal handles buffering of a first time interval of streaming data, and a presentation/display unit (208).